

CLAIMS

1. A media sheet, comprising:
  - a substrate; and
  - 5 a porous ink-receiving layer deposited on the substrate, said porous ink-receiving layer comprising inorganic metal or semi-metal oxide particulates bound by a polymeric binder, said porous ink-receiving layer further including an effective amount of a sulfur-containing compound that interacts with ozone upon exposure thereto.
- 10 2. A media sheet as in claim 1, wherein the substrate is photobase.
3. A media sheet as in claim 1, wherein the porous ink-receiving layer further comprises a mordant component configured for fixing a predetermined 15 class of colorant.
4. A media sheet as in claim 1, wherein the inorganic metal or semi-metal oxide is silica.
- 20 5. A media sheet as in claim 1, wherein the inorganic or semi-metal oxide is alumina.
6. A media sheet as in claim 1, wherein the polymeric binder is selected 25 from the group consisting of polyvinyl alcohol, water-soluble copolymers of polyvinyl alcohol, polyvinyl acetate, polyvinyl pyrrolidone, oxidized starches, etherified starches, carboxymethyl cellulose, hydroxyethyl cellulose, polyacrylamide, polyacrylamide derivatives, polyacrylamide copolymers, casein, gelatin, soybean protein, silyl-modified polyvinyl alcohol, maleic anhydride resin, styrene-butadiene copolymer, copolymers of acrylic and methacrylic acids, 30 ethylene-vinyl acetate copolymers, carboxyl-modified latexes, amino-modified latexes, amido-modified latexes, sulfo-modified latexes, melamine resin, urea resin, polymethyl methacrylate, polyurethane resin, polyester resin, amide resin,

vinyl chloride-vinyl acetate copolymer, polyvinyl butyral, alkyl resins, and combinations thereof.

7. A media sheet as in claim 1, wherein the sulfur-containing compound  
5 is admixed within the porous ink-receiving layer.

8. A media sheet as in claim 1, wherein at least a portion of the sulfur-containing compound is chemically attached to at least one of the inorganic metal or semi-metal oxide particulates.

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9. A media sheet as in claim 1, wherein the sulfur-containing compound is selected from the group consisting of a thioether and a thiol.

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10. A media sheet as in claim 9, wherein the sulfur-containing compound is a thiодиethanol.

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11. A method of preparing a media sheet, comprising:

applying a porous ink-receiving layer to a media substrate, said ink-receiving layer including inorganic metal or semi-metal oxide particulates, polymeric binder, and an effective amount of a sulfur-containing compound that interacts with ozone upon exposure thereto; and  
drying the ink-receiving layer.

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12. A method as in claim 11, wherein the inorganic metal or semi-metal oxide particulates, the polymeric binder, and the sulfur-containing compound are present in a common coating composition, and the common coating composition is coated on the media substrate in the applying step.

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13. A method as in claim 12, wherein the inorganic metal or semi-metal oxide particulates, the polymeric binder, and the sulfur-containing compound are admixed together in the common coating composition.

14. A method as in claim 12, wherein at least a portion of the sulfur-containing compound is chemically attached to at least one of the inorganic metal or semi-metal oxide particulates.

5 15. A method as in claim 11, wherein the applying step includes two coating steps, said two coating steps comprising:

coating the media substrate with a first coating composition including the inorganic metal or semi-metal oxide particulates and the polymeric binder, and  
overcoating the first coating composition with a second coating

10 composition including the sulfur-containing compound.

16. A method as in claim 11, wherein the porous ink-receiving layer further comprises a mordant component configured for fixing a predetermined class of colorant.

15 17. A method as in claim 11, wherein the inorganic metal or semi-metal oxide is silica or alumina.

20 18. A method as in claim 11, wherein the polymeric binder is selected from the group consisting of polyvinyl alcohol, water-soluble copolymers of polyvinyl alcohol, polyvinyl acetate, polyvinyl pyrrolidone, oxidized starches, etherified starches, carboxymethyl cellulose, hydroxyethyl cellulose, polyacrylamide, polyacrylamide derivatives, polyacrylamide copolymers, casein, gelatin, soybean protein, silyl-modified polyvinyl alcohol, maleic anhydride resin, 25 styrene-butadiene copolymer, copolymers of acrylic and methacrylic acids, ethylene-vinyl acetate copolymers, carboxyl-modified latexes, amino-modified latexes, amido-modified latexes, sulfo-modified latexes, melamine resin, urea resin, polymethyl methacrylate, polyurethane resin, polyester resin, amide resin, vinyl chloride-vinyl acetate copolymer, polyvinyl butyral, alkyl resins, and 30 combinations thereof.

19. A method as in claim 11, wherein the sulfur-containing compound is selected from the group consisting of a thioether and a thiol.

20. A method as in claim 19, wherein the sulfur-containing compound is  
5 a thiodiethanol.

21. An ink-jet print, comprising:  
a coated media substrate, including a substrate and a porous ink-receiving layer deposited on the substrate, said porous ink-receiving layer  
10 comprising inorganic metal or semi-metal oxide particulates bound by a polymeric binder, said porous ink-receiving layer further including a sulfur-containing compound; and  
an ink-jet ink applied to at least a portion of the coated media substrate to form an ink-jet image that is resistant to ozone exposure.

15 22. An ink-jet print as in claim 21, wherein the substrate is photobase.

23. An ink-jet print as in claim 21, wherein the porous ink-receiving layer further comprises a mordant component, said mordant component having  
20 interacted with a colorant present in the ink-jet ink.

24. An ink-jet print as in claim 21, wherein the inorganic metal or semi-metal oxide is silica.

25 25. An ink-jet print as in claim 21, wherein the inorganic or semi-metal oxide is alumina.

26. An ink-jet print as in claim 21, wherein the polymeric binder is selected from the group consisting of polyvinyl alcohol, water-soluble  
30 copolymers of polyvinyl alcohol, polyvinyl acetate, polyvinyl pyrrolidone, oxidized starches, etherified starches, carboxymethyl cellulose, hydroxyethyl cellulose, polyacrylamide, polyacrylamide derivatives, polyacrylamide

copolymers, casein, gelatin, soybean protein, silyl-modified polyvinyl alcohol, maleic anhydride resin, styrene-butadiene copolymer, copolymers of acrylic and methacrylic acids, ethylene-vinyl acetate copolymers, carboxyl-modified latexes, amino-modified latexes, amido-modified latexes, sulfo-modified latexes,

5       melamine resin, urea resin, polymethyl methacrylate, polyurethane resin, polyester resin, amide resin, vinyl chloride-vinyl acetate copolymer, polyvinyl butyral, alkyl resins, and combinations thereof.

27. An ink-jet print as in claim 21, wherein the sulfur-containing  
10 compound is admixed within the porous ink-receiving layer.

28. An ink-jet print as in claim 21, wherein at least a portion of the sulfur-containing compound is chemically attached to at least one of the inorganic metal or semi-metal oxide particulates.

15       29. An ink-jet print as in claim 21, wherein the sulfur-containing compound is selected from the group consisting of a thioether and a thiol.

20       30. An ink-jet print as in claim 29, wherein the sulfur-containing compound is a thiodiethanol.